

AMENDMENTS TO THE ABSTRACT

A rotary electric machine includes a frame ~~20~~; a stator whose stator-slot number N_s is 12; a rotor whose rotor-pole number N_p is 8, the rotor being disposed ~~in a space~~ inside the stator; ~~and given that~~. The frame has a frame thickness $T(\theta)$ at mechanical angle θ , with respect to a reference line that connects the inner circumferential center of the frame with an arbitrary point, other than the center, around the center that is circularly expanded in ~~the~~ a Fourier series ~~and that the~~. The difference between the stator-slot number N_s and the rotor-pole number N_p is k ($= |N_s - N_p|$), ~~stress-relieving~~. Stress-relieving spaces 201 and 202 provided are located in portions of the frame in an arrangement that does not have 90-degree mechanical angle rotational symmetry, in such a way that the sum P of inclusion ratios for the k -th component T_k and the N_p -th component T_{N_p} ~~that, which~~ are the Fourier series expansion coefficients for the frame thickness $T(\theta)$ expressed by equation (2)

$$P = (T_k + T_{N_p}) / \sum_{n=0}^{\infty} T_n \times 100 [\%] \quad (2)$$

~~falls under~~, is less than 12%. According to this configuration, mechanical strength of the frame and its ~~productivity~~ producibility are maintained, and cogging torque caused by magnetic-circuit distortion in an iron core generated due to the frame shape ~~can be~~ is also reduced.